

REMARKS

This communication is in response to the Office Action mailed on February 15, 2005. In the Office Action, claims 1-29 were pending.

The Office Action first reports that claims 1-12 were provisionally rejected under the judicially created doctrine of double patenting, citing claims 1, 9-15 and 18-20 of co-pending application No. 10/660,388. Applicants respectfully traverse this rejection because the applications claim two different inventions, having different filing dates. The present application as recited by claim 1 claims a method for estimating naturalness of synthesized speech disclosed in "An Objective Measure for Estimating MOS of Synthesized Speech", and presented and published by Eurospeech Sept. 3-7, 2001. The cited application of the provisional rejection was filed Sept. 11, 2003. Applicants do not and could not have presented the claims of the present application in the later filed application for these claims would have been barred under 35 U.S.C. 102(b) due to publishing of the afore-mentioned paper. Accordingly, withdrawal of the provisional rejection is respectfully requested.

The Office Action next reports that claims 14-16 and 24-27 were objected to citing that "context vectors comprises" should be "context vectors comprise". Applicants have made the suggestion in these claims as well as in claims 12, 13 and 22.

The Office Action next reports that claims 1, 2-9 and 19 were indefinite citing the language "derived from" with respect to claim 1 and "comprises" in claims 2-9. Applicants have amended claim 1; however, claim 19 does not recite "derived from" and accordingly the change has not been made. With respect to use of "comprises" in claims 2-9, applicants respectfully note that the language in context is "wherein the objective measure comprises an indication of" It is respectfully believed that this language

is proper, particularly because it includes "indication of", which is believed a proper reference to an objective measure that is clearly described in the specification. Applicants further respectfully decline amending this language in view of recent Supreme Court and CAFC rulings that refer to loss of the Doctrine of Equivalents upon making amendments, and the unsettled nature of the courts in this area.

The Office Action next reports that claims 1, 10, 11 and 19-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kitawaki et al. in view of Rtischev (U.S. Pat 5,634,086). Kitawaki was cited as disclosing a method of estimating naturalness of synthesized speech, including "subjectively rating each of the synthesized utterances", citing the description at page 243 describing MOS and Qop. Applicants respectfully traverse that Kitawaki discloses this step.

Kitawaki describes using LPC Cepstrum Distance as an objective measure for measuring quality. As stated on page 242, Kitawaki states "An LPC cepstrum distance measure is introduced as an effective evaluation measure.... A method for generating an artificial voice reflecting the major characteristics of real speech, and an evaluation method that uses the artificial voice as an input test signal is presented."

Section II(A) of Kitawaki discusses the LPC cepstrum distance measure in detail. It is important to understand that this measure is not based on textual information used to form the utterances, as recited by claim 1, but rather based on LPC cepstrum coefficients of the input and output of codecs.

In Section II(B), which was cited for describing the step referenced above, Kitawaki demonstrates and then states that "[t]herefore, it is concluded that LPC cepstrum distance measure corresponds well to the subjective evaluation values expressed in both Qop and MOS." In FIG. 2, Kitawaki shows how real speech correlates to LPC cepstrum distance, while FIG. 3 shows how LPC

cepstrum distance by real speech (not synthesized speech) correlates to MOS. This section simply does not disclose "subjectively rating each of the synthesized utterances" (emphasis added), as recited by claims 1 and 19.

A further understanding of the teachings of Kitawaki explains how "subjectively rating each of the synthesized utterances" is not taught by Kitawaki. In Section III, Kitawaki describes how artificial speech is an adequate substitute for real speech concluding in Section III(B) that "... the LPC distance values obtained using the artificial voice correspond well to those obtained using real speech." Having established this fact, Kitawaki then establishes a relationship between Qop obtained by subjective opinion of real speech and that obtained using artificial voice. From this realization, Kitawaki can conclude that use of artificial voice can be used to evaluate nonlinear distortions present in speech communications systems (Section V).

In addition, the Office Action reports that Kitawaki discloses "ascertaining a relationship between the scores of the objective measure and subjective ratings of the synthesized utterances", citing page 245. However, as demonstrated above since Kitawaki does not teach or suggest "subjectively rating each of the synthesized utterances", Kitawaki can not therefore teach "ascertaining a relationship between the scores of the objective measure and subjective ratings of the synthesized utterances".

The secondary reference, Rtishev, was cited for teaching a method for calculating the quality of a user's speech by using textual information, citing "number of words in the text." Although applicants do not concede the suggestion that Rtishev teaches the afore-mentioned, nevertheless nowhere does Rtishev teach or suggest the steps of "subjectively rating each of the synthesized utterances" or "ascertaining a relationship between the scores of the objective measure and subjective ratings of the synthesized utterances" as demonstrated above as lacking in

Kitawaki.

In view of the foregoing, applicants respectfully request withdrawal of the rejection to claims 1 and 19. It is noted, these claims have been amended to further clarify that the utterances are generated based on textual information for purposes of understanding.

With this amendment, applicants have cancelled claims 15 and 27 and added claims 30 and 31. Generally claims 30 and 31 recite that the objective measure is a function of a concatenative cost of the textual information used to form word(s) in the utterances, where claim 30 depends from claim 1 and claim 31 depends from claim 19. Support for these claims is found in the specification at least at page 17, line 29 - page 19, line 27. It is believed that claims 30 and 31 are not taught or suggested by the prior art, and are therefore separately patentable. In addition, claims 2-14, 16-18, 20-26 and 28-29 have been amended to depend directly or indirectly from claim 30 or claim 31. When combined with the features of claims 1, 30 or 19, 31, and any intervening claims, it is believed claims 2-14, 16-18, 20-26 and 28-29 are separately patentable.

It is noted in the Office Action that "Official Notice" was taken with respect to claims 17, 19, 20, 21, 22 and 28. Applicants traverse this finding and respectfully request evidence of such a finding. Applicants believe that a patentable combination is found for the features recited by these claims and/or any features recited in claims from which they depend.

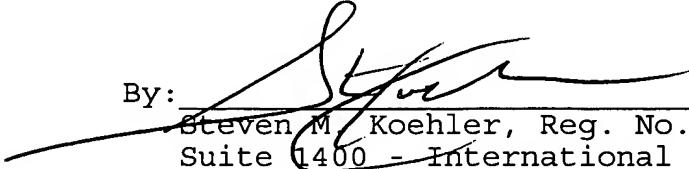
An extension of time is hereby requested for responding to this Office Action. A charge authorization for the extension of time fee is included herewith.

In view of the foregoing, Applicants respectfully request reconsideration of the application as amended. Favorable action upon the pending claims is solicited.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: 

Steven M. Koehler, Reg. No. 36,188
Suite 1400 - International Centre
900 Second Avenue South
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312